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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,208	08/16/2001	Osamu Itou	H6810.0028/P028	9208
24998	7590	05/13/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			SEFER, AHMED N	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			2826	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/930,208	Applicant(s) ITOU ET AL.	
	Examiner A. Sefer	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-24,26,28,29,32 and 34-51 is/are pending in the application.  
 4a) Of the above claim(s) 5,7-24,26,32 and 34-51 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1,2,4,28 and 29 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
     1. ☐ Certified copies of the priority documents have been received.  
     2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/2005 has been entered and claims 27, 53, and 54 have been cancelled.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. ("Okamoto") US PG-Pub 2002/0063826 in view of Scheuble et al. ("Scheuble") USPN 6,327,010.

Okamoto discloses (see fig. 13, pars. 0161-0162 and par. 0177 and abstract) a liquid crystal display device having one polarizing plate 29 and having a normally closed display mode and being a reflection type device comprising: an upper substrate 34 and a lower substrate 33 disposed in a mutually facing relation; a liquid crystal layer 20 sandwiched between said upper substrate and said lower substrate having a twist angle which falls within the range recited in the claim; a light diffusive reflective electrode 36 having recesses and projections provided over said

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lower substrate; a phase plate 28 provided on an outer surface of said upper substrate; and wherein said one polarizing plate provided on an outer surface of said phase plate, but does not specifically disclose a product of a height of said recesses and projections of said light diffusive reflective electrode and a birefringence of said a liquid crystal layer.

Scheuble discloses (fig. 2 and col. 13, lines 27-50) a liquid crystal display device including a product of a height of said recesses and projections of said light diffusive reflective electrode ( $3 \text{ um} \leq d \leq 7 \text{ um}$ ) and a birefringence  $0.035 \leq \Delta n \leq 0.010$ ) of said a liquid crystal layer.

Since Okamoto and Scheuble are both from the same field of endeavor, liquid crystal reflective device, Scheuble's teachings would have been recognized in Okamoto's pertinent art. Therefore, in view of Scheuble's teachings, one having an ordinary skill in the art at the time the invention was made would be motivated to modify Okamoto's device by incorporating Scheuble's teachings since that would a high contrast as taught by Scheuble.

As for claim 4, Okamoto discloses (see par. 0039) phase plate having a slow axis azimuth which falls within the range recited in the claim.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Scheuble as applied to claim 1 above, and further in view of Terashita et al. ("Terashita") US PG-Pub 2003/0058393.

Okomoto discloses (par. 0249 and abstract) the device structure as recited in the claim including a liquid crystal retardation value, but does not disclose an absorption axis and phase plate retardation.

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Terashita discloses (pars. 0028-0031, 0100, par. 0273 and 0291) a liquid crystal display device having a normally closed display mode comprising a phase retardation value, a liquid crystal retardation value and a polarizing plate having an absorption axis value which fall within the range recited in the claim.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Terashita's teachings since that would provide a wide viewing angle as taught by Terashita. It would have been obvious to modify Okamoto's device since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges (phase plate retardation) involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, the specification contains no disclosure of either the critical nature of the claimed arrangement or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Scheuble.

Okamoto discloses (see fig. 13, pars. 0161-0162 and par. 0177 and abstract) a method of fabricating a liquid crystal display device having one polarizing plate and having a normally closed display mode and being a reflection type, said method comprising the steps of: providing an upper substrate 34 and a lower substrate 33 disposed in a mutually facing relation; providing a liquid crystal layer 20 sandwiched between said upper substrate and said lower substrate having a twist angle which falls within the range recited in the claim; providing a light diffusive

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reflective electrode 36 having recesses and projections provided over said lower substrate; providing a phase plate 28 on an outer surface of said upper substrate; and wherein said one polarizing plate is provided on an outer surface of said phase plate, but does not specifically disclose a product of a height of said recesses and projections of said light diffusive reflective electrode and a birefringence of said a liquid crystal layer.

Scheuble discloses (fig. 2 and col. 13, lines 27-50) a method of fabricating a liquid crystal display device including a product of a height of said recesses and projections of said light diffusive reflective electrode ( $3\text{ }\mu\text{m} \leq d \leq 7\text{ }\mu\text{m}$ ) and a birefringence  $0.035 \leq \Delta n \leq 0.010$ ) of said a liquid crystal layer.

Since Okamoto and Scheuble are both from the same field of endeavor, liquid crystal reflective device, Scheuble's teachings would have been recognized in Okamoto's pertinent art. Therefore, in view of Scheuble's teachings, one having an ordinary skill in the art at the time the invention was made would be motivated to modify Okamoto's method of fabricating the device by incorporating Scheuble's teachings since that would a high contrast as taught by Scheuble.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Scheuble as applied to claim 1 above, and further in view of Terashita et al. ("Terashita") US PG-Pub 2003/0058393.

Okomoto discloses (par. 0249 and abstract) the method of fabricating of device structure as recited in the claim including a liquid crystal retardation value, but does not disclose an absorption axis and phase plate retardation.

Terashita discloses (pars. 0028-0031, 0100, par. 0273 and 0291) a liquid crystal display device having a normally closed display mode comprising a phase retardation value, a liquid

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crystal retardation value and a polarizing plate having an absorption axis value which fall within the range recited in the claim.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Terashita's teachings since that would provide a wide viewing angle as taught by Terashita. It would have been obvious to modify Okamoto's device since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges (phase plate retardation) involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, the specification contains no disclosure of either the critical nature of the claimed arrangement or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS

May 6, 2005

~~NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800~~